Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims

1. (Currently amended) A cutting tool ~~having~~comprising a tool shank and a cutting head made of different materials which are integrally connected to one another via a joining layer made of ductile brazing material at joining surfaces facing one another, powder particles made of a temperature-resistant material having a lower coefficient of thermal expansion than the brazing material being embedded in the joining layer,

wherein the joining layer has a different coefficient of thermal expansion over its layer thickness, the coefficient of thermal expansion of the joining layer being ~~lower~~lowest on the side of the cutting head ~~than on the side of the tool shank~~.

2. (Currently amended) The cutting tool as claimed in claim 1, wherein the density of the powder particles varies over the entire thickness of the joining layer.

3. (Previously presented) The cutting tool as claimed in claim 1, wherein the density of the powder particles within the joining layer is higher on the side of the cutting head than on the side of the tool shank.

4. (Previously presented) The cutting tool as claimed in claim 1, wherein the tool shank comprises steel.

5. (Previously presented) The cutting tool as claimed in claim 4, wherein the tool shank is made of a case-hardened

steel having a phase transformation point within a range of 480°C to 650°C.

6. (Previously presented) The cutting tool as claimed in claim 5, wherein the case-hardened steel has a chrome content of less than 2%.

7. (Currently Amended) The cutting tool as claimed in claim 5, wherein ~~the case-hardened steel is a 16MnCr5 steel~~the joining layer consists of said ductile brazing material and said powder particles.

8. (Previously presented) The cutting tool as claimed in claim 5, wherein the case-hardened steel is carburized or nitrided at least on the outer surface of the tool shank.

9. (Previously presented) The cutting tool as claimed in claim 1, wherein the cutting head is made of a material from the group consisting of cemented carbide, cermet, ceramic or PCD.

10. (Previously presented) The cutting tool as claimed in claim 1, wherein the joining surfaces, facing one another, of the tool shank and the cutting head are curved so as to be complementary to one another.

11. (Previously presented) The cutting tool as claimed in claim 1, wherein the joining surface of the cutting head is convexly curved.

12. (Previously presented) The cutting tool as claimed in claim 11, wherein the joining surface of the tool shank is concavely curved.

13. (Previously presented) The cutting tool as claimed in claim 1, wherein the tool shank has at least one helically wound flute, which passes through the joining layer in the direction of the cutting head.

14. (Previously presented) The cutting tool as claimed in claim 1, wherein the tool shank has at least one helically wound functional passage, which passes through the joining layer in the direction of the cutting head.

15. (Previously presented) The cutting tool as claimed in claim 1, wherein the joining layer contains a brazing material from the group comprising copper, silver, cobalt or their alloys.

16. (Previously presented) The cutting tool as claimed in claim 1, wherein the powder particles embedded in the brazing material of the joining layer are made of a material from the group comprising tungsten, molybdenum, iron, cobalt, nickel or their carbides.

17. (Previously presented) The cutting tool as claimed in claim 1, wherein the thickness of the joining layer corresponds to 10 to 1000 times the diameter of the powder particles.

18. (Previously presented) The cutting tool as claimed in claim 1, wherein the thickness of the joining layer is from 0.1 mm to 2 mm.

19-47. (Cancelled)

48. (New) A cutting tool comprising:

a tool shank;

a cutting head made of a different material than the tool shank; and

a joining layer integrally joining the tool shank and the cutting head, the joining layer comprising ductile brazing material and powder particles embedded in the brazing material, the powder particles comprising a temperature-resistant material having a lower coefficient of thermal expansion than the brazing material,

wherein the joining layer has a different coefficient of thermal expansion over its layer thickness, the coefficient of thermal expansion of the joining layer being lowest on the side joining the cutting head.

49. (New) The cutting tool as claimed in Claim 48, wherein the density of the powder particles varies over the entire thickness of the joining layer.

50. (New) A cutting tool having a tool shank and a cutting head made of different materials that are integrally connected to one another via a joining layer at joining surfaces facing one another, said joining layer consisting of brazing material and powder particles embedded in the brazing material, wherein the powder particles are made of a temperature-resistant material having a lower coefficient of thermal expansion than the brazing material,

wherein the joining layer has a different coefficient of thermal expansion over its layer thickness.

51. (New) The cutting tool as claimed in Claim 50, wherein the density of the powder particles varies over the entire thickness of the joining layer.

52. (New) The cutting tool as claimed in Claim 50, wherein the density of the powder particles within the joining layer is lowest on the side of the tool shank.

53. (New) The cutting tool as claimed in Claim 50, wherein the tool shank comprises steel.

54. (New) The cutting tool as claimed in Claim 50, wherein the joining surfaces, facing one another, of the tool shank and the cutting head are curved so as to be complementary to one another.

55. (New) The cutting tool as claimed in Claim 54, wherein the joining surface of the cutting head is convexly curved.

56. (New) The cutting tool as claimed in Claim 55, wherein the joining surface of the tool shank is concavely curved.

57. (New) The cutting tool as claimed in Claim 50, wherein the thickness of the joining layer corresponds to 10 to 1000 times the diameter of the powder particles.

58. (New) The cutting tool as claimed in Claim 50, wherein the thickness of the joining layer is from 0.1 mm to 22.

59. (New) The cutting tool as claimed in Claim 50, wherein the coefficient of thermal expansion of the joining layer is lowest on the joining layer adjacent the cutting head.